2010 Montana DPHHS Public Health Laboratory Influenza Preparedness

MTPHL AVAILABLE TESTING

Influenza Molecular Testing: Respiratory specimens for Influenza are tested by real time PCR. The patient specimen is processed to purify nucleic acid, and then is reacted with primers and probes specific for either Influenza A or Influenza B. Positive results may be available the same day as specimen receipt. If the presence of Influenza A is detected, further subtyping can be performed by real time PCR using primers and probes specific for the seasonal subtypes H1 and H3 as well as for 2009 H1N1 or H5 (Avian).

Influenza Culture: In addition to molecular testing, MTPHL has virus isolation capability which can identify common respiratory viruses in addition to Influenza. The patient specimen is placed into cell culture and allowed to grow. Positive results may be available within a few days, but cultures are held for approximately 2 weeks before being reported as negative. When a virus culture is positive for Influenza, the virus is identified as either Influenza A or Influenza B. If Influenza A is isolated, further subtyping is performed using monoclonal antibodies specific for H1 or H3, or 2009 H1N1.

Confirmatory Testing: The MTPHL performs confirmatory testing on specimens that have been previously tested using a rapid Influenza test at the local level. Rapid test positive specimens from the first seasonal influenza cases, or other specimens epidemiologically suggestive of being a new novel strain of influenza should be referred to the MTPHL for additional testing and subtyping. Rapid test negative specimens from persons with a high degree of suspicion of having seasonal influenza including 2009 H1N1influenza should also be referred for additional testing.

Reporting: Preferred method of reporting will be the MTPHL Harvest Webstation. All facilities are encouraged to maintain an active account.

CURRENT SURVEILLANCE & PREPAREDNESS ACTIVITIES

MTPHL, as a WHO collaborating laboratory, reports year round to CDC, on a weekly basis, with numbers of specimens received, and the number and type of influenza viruses isolated.

The MTPHL routinely communicates by e-mail or fax to clinical laboratories throughout the state. One vehicle is the weekly e-newsletter *Lab Sentinel*. This system is used to communicate rapidly any new information or guidelines for specimen collection, submission, safety issues, etc.

MTPHL routinely performs both culture and molecular testing for Influenza surveillance on specimens from sentinel surveillance providers and clinical laboratories throughout Montana. This surveillance is intended to ensure that a representative sampling of circulating Influenza virus strains are received by our public health laboratory system during the entire Influenza season.

Specimen collection and transport supplies and instructions for testing are provided by MTPHL to sentinel surveillance providers, and to our clinical laboratory partners.

The MTPHL routinely submits selected influenza isolates from the current influenza season to CDC for antigenic analysis and population based anti-viral susceptibility testing.

The MTPHL has developed an internal surge capacity plan that includes provisions for increased workload, procurement of reagents and supplies, and staff shortages either due to illness or staff not reporting to work. Activation of a Laboratory Incident Command Structure, prioritization of testing, memorandums of understanding with other laboratories, and staff reassignment are all part of the plan.

SPECIMEN COLLECTION

Respiratory specimens should be collected within the first 72 hours post onset, since viral shedding is at a peak during this time, and recovery will be optimized.

Specimens for molecular PCR testing and culture should both be submitted in Universal Transport Media and transported in a cold condition.

Collection and Transport kits are available from the MTPHL. Collection kits are comprised of a tube of Universal Transport Media with two different types of swabs. One swab is a flocked Dacron swab on a flexible wire, for NP collection. The throat swab is collected with the larger flocked Dacron swab on a plastic stick. The new flocked swabs are designed to capture more cells during the collection process. Viral Transport Media is stored at room temperature until used. Check the expiration date to ensure an adequate in-date supply.

Appropriate specimens for Influenza testing include:

- Nasopharyngeal Swab
- Nasal Swab
- Nasal Aspirates/Washings
- Throat Swab
- Combination Throat/NP swab

A second swab specimen should be collected for MTPHL testing if you are performing a rapid test. Do not submit residual fluid from the rapid test.

Ship specimens without delay. Specimens must be shipped in a cold condition (blue ice packs in a Styrofoam cooler) and, optimally, delivered to the laboratory within 48 hours of collection.

Specimens will be rejected if not submitted and transported properly.

To contact the Montana DPHHS Public Health Laboratory, call 1-800-821-7284